

IN THE CLAIMS:

Please cancel all pending claims without prejudice to subsequent revival.
Please add the following new claims 56-127.

--56. A pharmaceutical composition comprising:
a therapeutically effective human dose of an immunogenic peptide that comprises an epitope consisting of about 8-11 amino acids, said epitope comprising an HLA-A2.1 motif of an amino acid V, A, or T at a position two relative to an amino terminus of the epitope and an amino acid L, I, V, M, or A at a carboxyl terminus of the epitope,
wherein the immunogenic peptide induces a cytotoxic T cell response when in complex with an HLA A2.1 molecule and is contacted with an HLA A2.1-restricted cytotoxic T cell;

a molecule linked to said peptide to create a compound, with a *proviso* that neither the peptide, the molecule nor the compound comprise an entire native antigen; and,
a human dose of pharmaceutically acceptable excipient.

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57. The composition of claim 56, wherein said epitope comprises an HLA-A2.1 motif of an amino acid A or T at a position two relative to an amino terminus of the epitope and an amino acid L, I, V, M, or A at a carboxyl terminus of the epitope, or an HLA-A2.1 motif of an amino acid V at a position two relative to an amino terminus of the epitope and an amino acid I, V, M, or A at a carboxyl terminus of the epitope.

58. The composition of claim 56, wherein the peptide is isolated and purified from a protein in nature or synthesized to correspond exactly to a peptide sequence in nature.

59. The composition of claim 56, wherein the composition comprises the peptide in a form of nucleic acids that encode the peptide.

60. The composition of claim 59, wherein the composition comprises the peptide in a form of nucleic acids that encode the peptide and at least one additional peptide, with a *proviso* that neither an additional peptide nor a combination of the peptide and the at least one additional peptide is an entire native antigen.

61. The composition of claim 56, wherein the composition comprises the peptide comprised by a longer peptide, with a *proviso* that the longer peptide is not an entire native antigen.

62. The composition of claim 56, wherein the peptide is derived from a cancer-associated antigen.

63. The composition of claim 62, wherein the peptide is derived from an antigen that is HER2/neu.

64. The composition of claim 62, wherein the peptide is derived from an antigen that is p53.

65. The composition of claim 62, wherein the peptide is derived from an antigen that is a MAGE antigen.

66. The composition of claim 62, wherein the peptide is derived from an antigen that is a prostate antigen.

67. The composition of claim 56, wherein the peptide is derived from an antigen that is derived from a pathogenic agent.

68. The composition of claim 67, wherein the peptide is derived from an HIV antigen.

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69. The composition of claim 67, wherein the peptide is derived from an HBV antigen.
70. The composition of claim 67, wherein the peptide is derived from an HCV antigen.
71. The composition of claim 67, wherein the peptide is derived from a malaria antigen.
72. The composition of claim 67, wherein the peptide is derived from an HPV antigen.
73. The composition of claim 56, wherein the peptide has 9, 10, 11, or 12 amino acid residues.
74. The composition of claim 56, wherein the peptide has less than about 15 amino acid residues.
75. The composition of claim 56, wherein the peptide comprised by the composition is immunogenic *in vitro* and/or *in vivo*.
76. The composition of claim 56, wherein the peptide binds to an HLA A2.1 molecule such that the ratio of the IC₅₀ of a standard peptide to the IC₅₀ of the peptide is at least 0.01.
77. The composition of claim 56, wherein the peptide has 9 or 10 amino acids.
78. The composition of claim 56, wherein the molecule is a lipid.

79. The composition of claim 56, wherein the molecule is a T helper epitope.

80. The composition of claim 79, wherein the molecule is a pan DR binding peptide.

81. The composition of claim 56, wherein the molecule is a cytotoxic T lymphocyte (CTL) epitope.

82. The composition of claim 56, wherein the molecule is the peptide.

83. The composition of claim 56, wherein the molecule is a carrier molecule.

84. A method for using a pharmaceutical composition in accordance with claim 56, said method comprising:

providing a pharmaceutical composition of claim 56 which comprises an immunogenic peptide;

complexing a fragment of the immunogenic peptide, or the entire peptide if it consists of about 8-11 amino acids in length, with an HLA A2.1 molecule, said fragment bearing the HLA A2.1 motif; and,

contacting an HLA A2.1-restricted CTL with the complex of the provided peptide and the HLA A2.1 molecule, whereby a CTL response is induced.

85. A pharmaceutical composition comprising:

a therapeutically effective human dose of an immunogenic peptide that comprises an epitope consisting of about 8-11 amino acids, said epitope comprising an HLA-A2.1 motif of an amino acid V, A, or T at a position two relative to an amino terminus of the epitope, and an amino acid L, I, V, M, or A at a carboxyl terminus of the epitope,

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wherein the immunogenic peptide induces a cytotoxic T cell response when in complex with an HLA A2.1 molecule and is contacted with an HLA A2.1-restricted cytotoxic T cell,

with a *proviso* that the peptide does not comprise an entire native antigen; and, a human dose of pharmaceutically acceptable excipient.

86. The composition of claim 85, wherein said epitope comprises an HLA-A2.1 motif of an amino acid A or T at a position two relative to an amino terminus of the epitope and an amino acid L, I, V, M, or A at a carboxyl terminus of the epitope, or an HLA-A2.1 motif of an amino acid V at a position two relative to an amino terminus of the epitope and an amino acid I, V, M, or A at a carboxyl terminus of the epitope.

87. The composition of claim 85, wherein the peptide is isolated and purified from a protein in nature or synthesized to exactly correspond to a peptide sequence in nature.

88. The composition of claim 85, wherein the composition comprises the peptide in a form of nucleic acids that encode the peptide.

89. The composition of claim 88, wherein the composition comprises the peptide in a form of nucleic acids that encode the peptide and at least one additional peptide, with a *proviso* that neither an additional peptide nor a combination of the peptide and the at least one additional peptide is an entire native antigen.

90. The composition of claim 85, wherein the composition comprises the peptide comprised by a longer peptide, with a *proviso* that the longer peptide is not an entire native antigen.

91. The composition of claim 85, wherein the peptide is derived from a cancer-associated antigen.

92. The composition of claim 91, wherein the peptide is derived from an antigen that is HER2/neu.

93. The composition of claim 91, wherein the peptide is derived from an antigen that is p53.

94. The composition of claim 91, wherein the peptide is derived from an antigen that is a MAGE antigen.

95. The composition of claim 91, wherein the peptide is derived from an antigen that is a prostate antigen.

96. The composition of claim 85, wherein the peptide is derived from an antigen that is derived from a pathogenic agent.

97. The composition of claim 96, wherein the peptide is derived from an HIV antigen.

98. The composition of claim 96, wherein the peptide is derived from an HBV antigen.

99. The composition of claim 96, wherein the peptide is derived from an HCV antigen.

100. The composition of claim 96, wherein the peptide is derived from a malaria antigen.

101. The composition of claim 96, wherein the peptide is derived from an HPV antigen.

102. The composition of claim 85, wherein the peptide has 9, 10, 11, or 12 amino acid residues.

103. The composition of claim 85, wherein the peptide has less than about 15 amino acid residues.

104. The composition of claim 85, wherein the peptide comprised by the composition is immunogenic *in vitro* and/or *in vivo*.

105. A method for using a pharmaceutical peptide composition in accordance with claim 85, said method comprising:

providing a pharmaceutical composition of claim 85 which comprises an immunogenic peptide;

complexing a fragment of the immunogenic peptide, or the entire peptide if it consists of about 8-11 amino acids in length, with an HLA A2.1 molecule, said fragment bearing the HLA A2.1 motif; and,

contacting a CTL restricted by an HLA A2.1 molecule with the complex of the provided peptide and the HLA A2.1 molecule, whereby a CTL response is induced.

106. An immunogenic composition, said composition comprising:
a peptide comprising an epitope consisting of about 8-11 amino acids, said epitope comprising an HLA-A2.1 motif of an amino acid V, A, or T at a position two relative to an amino terminus of the epitope, and an amino acid L, I, V, M, or A at a carboxyl terminus of the epitope,

wherein the immunogenic peptide induces a cytotoxic T cell response when in complex with an HLA A2.1 molecule and is contacted with an HLA A2.1-restricted cytotoxic T cell; and

a molecule linked to said peptide to create a compound, with a *proviso* that neither the peptide, the molecule nor the compound comprise an entire native antigen.

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107. The composition of claim 106, wherein said epitope comprises an HLA-A2.1 motif of an amino acid A or T at a position two relative to an amino terminus of the epitope and an amino acid L, I, V, M, or A at a carboxyl terminus of the epitope, or an HLA-A2.1 motif of an amino acid V at a position two relative to an amino terminus of the epitope and an amino acid I, V, M, or A at a carboxyl terminus of the epitope.

108. The composition of claim 106, wherein the peptide is in a form of nucleic acids that encode the peptide.

109. The composition of claim 108, wherein the peptide is in a form of nucleic acids that encode the peptide and at least one additional peptide, with a *proviso* that neither an additional peptide nor a combination of the peptide and the at least one additional peptide is an entire native antigen.

110. The composition of claim 106, wherein the peptide is comprised by a longer peptide, with a *proviso* that the longer peptide is not an entire native antigen.

111. A pharmaceutical composition comprising a peptide sequence of claim 106 and a pharmaceutically acceptable excipient.

112. The composition of claim 111, wherein the peptide is in a therapeutically effective human dose, and the pharmaceutically acceptable excipient is in a human dose.

113. The composition of claim 106, wherein the peptide is immunogenic *in vitro* and/or *in vivo*.

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114. The composition of claim 106, wherein the peptide binds to an HLA A2.1 molecule such that the ratio of the IC_{50} of a standard peptide to the IC_{50} of the peptide is at least 0.01.

115. The composition of claim 106, wherein the peptide has 9 or 10 amino acids.

116. The composition of claim 106, wherein the molecule is a lipid.

117. The composition of claim 106, wherein the molecule is a T helper epitope.

118. The composition of claim 117, wherein the molecule is a pan DR binding peptide.

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119. The composition of claim 106, wherein the molecule is a cytotoxic T lymphocyte (CTL) epitope.

120. The composition of claim 106, wherein the molecule is the peptide.

121. The composition of claim 106, wherein the molecule is a carrier molecule.

122. A method for inducing a cytotoxic T cell (CTL) response by a CTL that bears an HLA A2.1 molecule, said method comprising:

providing a composition of claim 106;

complexing a fragment of the provided peptide, or the entire peptide if it consists of about 8-11 amino acids in length, with an HLA A2.1 molecule, said fragment bearing the HLA A2.1 motif; and,

contacting a CTL restricted by an HLA A2.1 molecule with the complex of the provided peptide and the HLA A2.1 molecule, whereby a CTL response is induced.

123. A pharmaceutical composition comprising a peptide of Tables 3 or 4 wherein the peptide binds to an HLA A2.1 molecule such that the ratio of the IC_{50} of a standard peptide to the IC_{50} of the peptide is at least 0.01

124. The composition of claim 123, wherein the composition comprises the peptide in a form of nucleic acids that encode the peptide.

125. The composition of claim 123, wherein the composition comprises the peptide in a form of nucleic acids that encode the peptide and at least one additional peptide, with a *proviso* that an additional peptide is not an entire native antigen.

126. The composition of claim 123, wherein the composition comprises the peptide comprised by a longer peptide, with a *proviso* that the longer peptide is not an entire native antigen.

127. The composition of claim 123, in a therapeutically effective human dose.--

REMARKS

With this amendment, Applicants request entry of new claims 56-127 in the patent application. Applicants thank Examiner Schwadron for participating in the interview with Applicant's attorneys Ellen Weber and Timothy Lithgow on July 20, 1999. During this interview, the Examiner indicated that he would enter in the present application new claims filed under the provisions of 37 C.F.R. § 1.129(a).